

Appl. No. 10/667,586  
Atty. Docket No.: 2002B170/2  
Amdt. dated October 25, 2006  
RCE to Office Action of April 5, 2006

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**OCT 25 2006**

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listing of claims in this application.

**Listing of Claims:**

1. (Currently Amended) A process to produce propylene polymers comprising contacting a metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions, wherein the catalyst activity is at least 2000 grams of polymer per gram of catalyst per hour and an activator with a reaction medium comprising propylene, from 0 to 30 volume % of one or more solvents and from 0 to 30 mole % of one or more comonomers, under temperature and pressure conditions below the melting point of the propylene polymer and where:

- a) the temperature is at or above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium; or
- b) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at or above the critical pressure of the reaction medium; or
- c) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium,  
wherein the produced propylene polymers have a  $T_m$  of 145°C or more and a branching index (g') of .97 or less.

2. (Original) The process of claim 1 wherein the temperature is 2°C or more above the critical temperature for the reaction medium.

3. (Previously Presented) The process of claim 1 wherein the temperature is between 94 and 160°C.

4. (Original) The process of claim 1 wherein the pressure is 1000 kPa or more above the critical pressure for the reaction medium.

5. (Original) The process of claim 1 wherein the pressure is between 5.0 and 9 MPa.

6. (Original) The process of claim 1 wherein the temperature is between 94 and 130°C and the pressure is between 5.0 and 7 MPa.

7. (Original) The process of claim 1 wherein solvent is present at 0 to 15 vol %.

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8. (Original) The process of claim 1 wherein the comonomer comprises butene, hexene and or octene.

9. (Original) The process of claim 1 wherein the comonomer comprises from 0.5 to 5 mole % ethylene.

10. (Cancelled)

11. (Previously Presented) The process of claim 1 where the metallocene catalyst compound is represented by the formula:  $L_z(Cp)_2M^mX_n$  where: each Cp is independently a substituted indenyl ring wherein each ring is substituted at the 2 and 4 positions;

z is 0 or 1;

L is a bridging group connecting Cp to Cp, M is a Group 4, 5, or 6 transition metal;

m is 3, 4, 5 or 6;

X is a halogen or a substituted or unsubstituted hydrocarbyl group, a substituted or unsubstituted hydrocarboxy group, or a substituted or unsubstituted heteroatom containing group; and

n is m minus 2.

12. (Original) The process of claim 11 wherein z is 1, L is represented by the formula:  $R_qSi-$  where each R is, independently, a substituted or unsubstituted  $C_1$  to  $C_{20}$  hydrocarbyl group and q is 1, 2, 3 or 4; and both Cp groups are indenyl rings substituted at the 2 and 4 positions.

13. (Cancelled)

14. (Previously Presented) The process of any of claims 1 to 9 wherein the metallocene catalyst compound comprises one or more of:

dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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dimethylsiladiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethylsiladiyl(2-*iso*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*iso*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*iso*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*sec*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-*tert*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*iso*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*iso*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*sec*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-*tert*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*iso*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*iso*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*sec*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-*tert*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;

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dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium 9-silafluorendiyl(2-  
iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;

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dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium

dichloride;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium

dichloride;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

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9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium  
dichloride;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium  
dichloride;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium  
dichloride;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

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9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

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9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-isobutyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;



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9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

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9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
 9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
 9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
 9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl 9-  
 silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
 dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
 dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
 dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
 dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;  
 dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-  
 1,3-butadiene;  
 dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-  
 1,3-butadiene;  
 dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-  
 butadiene;

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dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-iso-propyl-4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-*n*-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;



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dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-*n*-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium;  
dimethyl dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  
zirconium dimethyl;  
dimethylamidoborane(2-*n*-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

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dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

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diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

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diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium  
dichloride;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  
zirconium dichloride;



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bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

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bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

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bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

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bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

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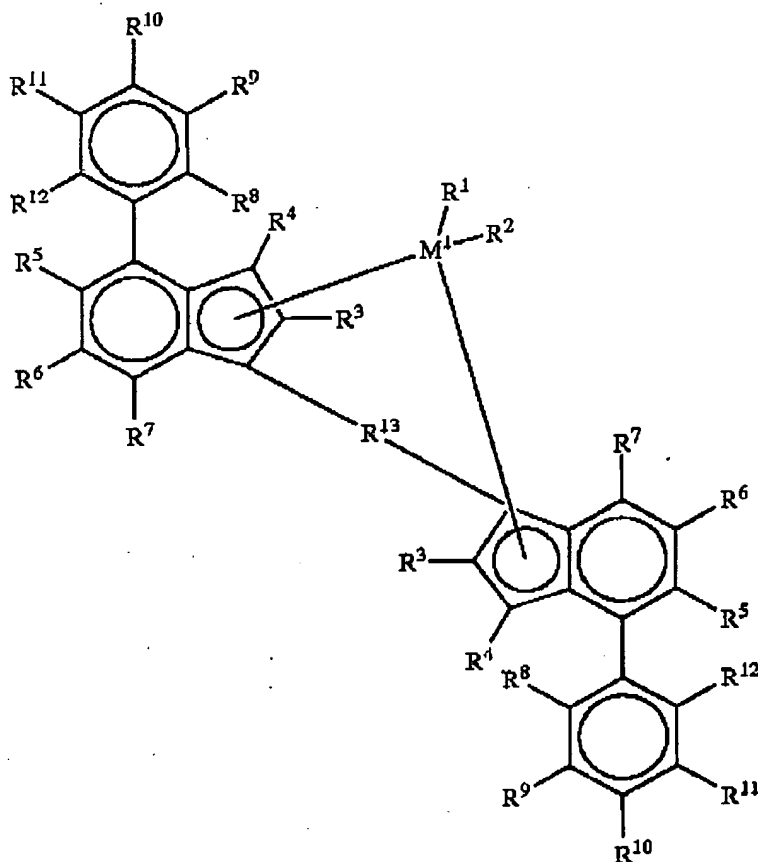
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bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
and bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl.

15. (Previously Presented) The process of claim 1 where the metallocene compound is represented by the formula:

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(I)



wherein:  $M^1$  is selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum and tungsten;

$R^1$  and  $R^2$  are identical or different, and are one of a hydrogen atom, a  $C_1$ - $C_{10}$  alkyl group, a  $C_1$ - $C_{10}$  alkoxy group, a  $C_6$ - $C_{10}$  aryl group, a  $C_6$ - $C_{10}$  aryloxy group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_2$ - $C_{40}$  alkenyl group, a  $C_7$ - $C_{40}$  arylalkyl group, a  $C_7$ - $C_{40}$  alkylaryl group, a  $C_9$ - $C_{40}$  arylalkenyl group, an OH group or a halogen atom;

$R^1$  and  $R^2$  may also be joined together to form an alkanediyl group or a conjugated  $C_{4-40}$  diene ligand which is coordinated to  $M^1$  in a metallocyclopentene fashion;

$R^1$  and  $R^2$  may also be identical or different conjugated dienes, optionally substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl groups or hydrocarbyl, tri(hydrocarbyl)silylhydrocarbyl groups, said dienes having up to 30 atoms not counting hydrogen and forming a  $\pi$  complex with M, examples include 1,4-diphenyl-1,3-butadiene, 1,3-pentadiene, 2-

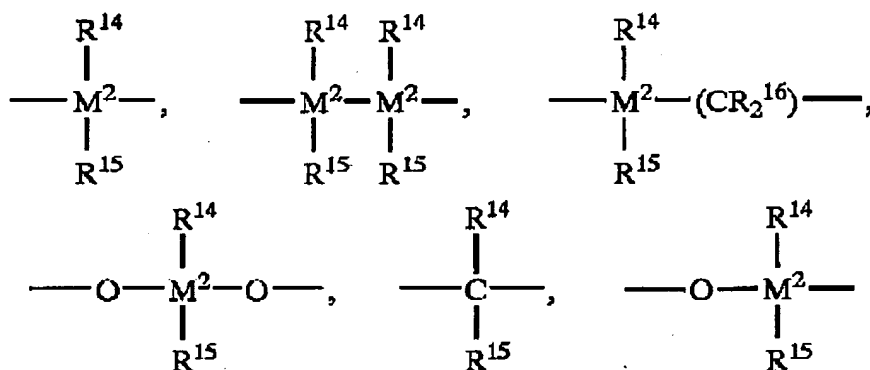
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methyl-1,3-pentadiene, 2,4-hexadiene, 1-phenyl-1,3-pentadiene, 1,4-dibenzyl-1,3-butadiene, 1,4-ditolyl-1,3-butadiene, 1,4-bis(trimethylsilyl)-1,3-butadiene, and 1,4-dinaphthyl-1,3-butadiene;

each  $R^3$  is identical or different from the other  $R^3$  and is each a halogen atom, a  $C_1$ - $C_{10}$  alkyl group which may be halogenated, a  $C_6$ - $C_{10}$  aryl group which may be halogenated, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_7$ - $C_{40}$ -arylalkyl group, a  $C_7$ - $C_{40}$  alkylaryl group, a  $C_9$ - $C_{40}$  arylalkenyl group, a  $--NR'^2$ ,  $--SR'$ ,  $--OR'$ ,  $--OSiR'_3$  or  $--PR'_2$  radical, wherein  $R'$  is one of a halogen atom, a  $C_1$ - $C_{10}$  alkyl group, or a  $C_6$ - $C_{10}$  aryl group;

$R^4$  to  $R^{12}$  are identical or different and are hydrogen, or are as defined for  $R^3$  or two or more adjacent radicals  $R^5$  to  $R^7$  together with the atoms connecting them form one or more rings;

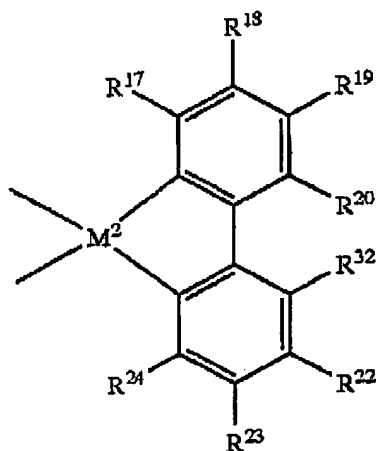
$R^{13}$  is:



$--B(R^{14})--$ ,  $--Al(R^{14})--$ ,  $--Ge--$ ,  $--Sn--$ ,  $--O--$ ,  $--S--$ ,  $--SO--$ ,  $--SO_2--$ ,  $--N(R^{14})--$ ,  $--CO--$ ,  $--P(R^{14})--$ , or  $--P(O)(R^{14})--$ ;

wherein:  $R^{14}$ ,  $R^{15}$  and  $R^{16}$  are identical or different and are a hydrogen atom, a halogen atom, a  $C_1$ - $C_{20}$  branched or linear alkyl group, a  $C_1$ - $C_{20}$  fluoroalkyl or silaalkyl group, a  $C_6$ - $C_{30}$  aryl group, a  $C_6$ - $C_{30}$  fluoroaryl group, a  $C_1$ - $C_{20}$  alkoxy group, a  $C_2$ - $C_{20}$  alkenyl group, a  $C_7$ - $C_{40}$  arylalkyl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a  $C_7$ - $C_{40}$  alkylaryl group, or  $R^{14}$  and  $R^{15}$ , together with the atoms binding them, form a cyclic ring; or,  $R^{13}$  is represented by the formula;

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wherein:  $R^{17}$  to  $R^{24}$  are as defined for  $R^1$  and  $R^2$ , or two or more adjacent radicals  $R^{17}$  to  $R^{24}$ , including  $R^{20}$  and  $R^{21}$ , together with the atoms connecting them form one or more rings; and  $M^2$  is one or more carbons, silicon, germanium or tin.

16. (Original) The process of claim 1 where the reaction medium comprises comonomer selected from the group consisting of ethylene, butene, hexene, octene, and decene.

17. (Currently Amended) The process of claim 1 where the metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions ~~the metallocene comprises~~ is a substituted or unsubstituted silyl bridged bis-indenyl metallocene.

18. (Original) The process of claim 1 where the metallocene catalyst compound is combined with propylene in an amount of up to 1.0 mole % hydrogen in the reactor.

19. (Original) The process of claim 1 wherein the activator comprises an ionizing activator.

20. (Original) The process of claim 1 wherein the activator comprises alumoxane.

21. (Original) The process of claim 1 wherein the activator comprises a non-coordinating anion.

22. (Original) The process of claim 1 wherein the activator is selected from the group consisting of:

trimethylammonium tetraphenylborate,



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triethylammonium tetraphenylborate,  
tripropylammonium tetraphenylborate,  
tri(n-butyl)ammonium tetraphenylborate,  
tri(tert-butyl)ammonium tetraphenylborate,  
N,N-dimethylanilinium tetraphenylborate,  
N,N-diethylanilinium tetraphenylborate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetraphenylborate,  
trimethylammonium tetrakis(pentafluorophenyl)borate,  
triethylammonium tetrakis(pentafluorophenyl)borate,  
tripropylammonium tetrakis(pentafluorophenyl)borate,  
tri(n-butyl)ammonium tetrakis(pentafluorophenyl)borate,  
tri(sec-butyl)ammonium tetrakis(pentafluorophenyl)borate,  
N,N-dimethylanilinium tetrakis(pentafluorophenyl)borate,  
N,N-diethylanilinium tetrakis(pentafluorophenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(pentafluorophenyl)borate,  
trimethylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triethylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tripropylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tri(n-butyl)ammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
dimethyl(tert-butyl)ammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-dimethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-diethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
trimethylammonium tetrakis(perfluoronaphthyl)borate,  
triethylammonium tetrakis(perfluoronaphthyl)borate,  
tripropylammonium tetrakis(perfluoronaphthyl)borate,  
tri(n-butyl)ammonium tetrakis(perfluoronaphthyl)borate,  
tri(tert-butyl)ammonium tetrakis(perfluoronaphthyl)borate,  
N,N-dimethylanilinium tetrakis(perfluoronaphthyl)borate,  
N,N-diethylanilinium tetrakis(perfluoronaphthyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(perfluoronaphthyl)borate,  
trimethylammonium tetrakis(perfluorobiphenyl)borate,

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triethylammonium tetrakis(perfluorobiphenyl)borate,  
tripropylammonium tetrakis(perfluorobiphenyl)borate,  
tri(n-butyl)ammonium tetrakis(perfluorobiphenyl)borate,  
tri(tert-butyl)ammonium tetrakis(perfluorobiphenyl)borate,  
N,N-dimethylanilinium tetrakis(perfluorobiphenyl)borate,  
N,N-diethylanilinium tetrakis(perfluorobiphenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(perfluorobiphenyl)borate,  
trimethylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triethylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tripropylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tri(n-butyl)ammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tri(tert-butyl)ammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-dimethylanilinium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-diethylanilinium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
di-(iso-propyl)ammonium tetrakis(pentafluorophenyl)borate,  
dicyclohexylammonium tetrakis(pentafluorophenyl)borate;  
tri(o-tolyl)phosphonium tetrakis(pentafluorophenyl)borate,  
tri(2,6-dimethylphenyl)phosphonium tetrakis(pentafluorophenyl)borate,  
tropillium tetraphenylborate,  
triphenylcarbenium tetraphenylborate,  
triphenylphosphonium tetraphenylborate,  
triethylsilylium tetraphenylborate,  
benzene(diazonium)tetraphenylborate,  
tropillium tetrakis(pentafluorophenyl)borate,  
triphenylcarbenium tetrakis(pentafluorophenyl)borate,  
triphenylphosphonium tetrakis(pentafluorophenyl)borate,  
triethylsilylium tetrakis(pentafluorophenyl)borate,  
benzene(diazonium) tetrakis(pentafluorophenyl)borate,  
tropillium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triphenylcarbenium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triphenylphosphonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,

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triethylsilylium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
benzene(diazonium)tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tropillium tetrakis(perfluoronaphthyl)borate,  
triphenylcarbenium tetrakis(perfluoronaphthyl)borate,  
triphenylphosphonium tetrakis(perfluoronaphthyl)borate,  
triethylsilylium tetrakis(perfluoronaphthyl)borate,  
benzene(diazonium) tetrakis(perfluoronaphthyl)borate,  
tropillium tetrakis(perfluorobiphenyl)borate,  
triphenylcarbenium tetrakis(perfluorobiphenyl)borate,  
triphenylphosphonium tetrakis(perfluorobiphenyl)borate,  
triethylsilylium tetrakis(perfluorobiphenyl)borate,  
benzene(diazonium) tetrakis(perfluorobiphenyl)borate,  
tropillium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triphenylcarbenium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triphenylphosphonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triethylsilylium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate, and  
benzene(diazonium)tetrakis(3,5-bis(trifluoromethyl)phenyl)borate.

23. (Original) The process of claim 1 wherein the activator comprises one or more of:  
dimethylanilinium tetrakis(perfluorophenyl)boron, tri(n-butyl)ammonium  
tetrakis(pentafluorophenyl)boron, N,N-dimethylanilinium tetra(perfluorophenyl)borate and/or  
triphenylcarbenium tetra(perfluorophenyl)borate.

24. (Original) The process of claim 1 where the catalyst compound, the activator or both are  
supported.

25. (Original) The process of claim 1 wherein the support comprises silica.

26. (Original) The process of claim 1 wherein the process occurs in an autoclave reactor.

27. (Original) The process of claim 1 wherein the process occurs in a tubular reactor.

28. (Original) The process of claim 1 wherein the process occurs in a loop reactor.

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29. (Original) The process of claim 1 wherein the polymerization medium comprises at least two phases.

30. (Withdrawn/Currently Amended) A propylene polymer where the polymer has a heat of fusion of 70 J/g and has a  $g'_{avg}$  of 0.98 or less.

31. (Withdrawn) The polymer of claim 30 wherein the polymer has a  $g'_{avg}$  of 0.96 or less.

32. (Withdrawn) The polymer of claim 30 wherein the polymer has a weight average molecular weight of 50,000 to 2,000,000.

33. (Withdrawn) The polymer of claim 30 wherein the polymer comprises 1 to 20 mole % of comonomer.

34. (Withdrawn) The polymer of claim 30 wherein the polymer comprises comonomer selected from the group consisting of ethylene, butene, pentene, hexene, heptene, octene, nonene, decene, undecene, dodecene, 3,5,5-trimethylhexene-1, 4-methylpentene-1, 3-methylpentene-1.

35. (Withdrawn) The polymer of claim 30 wherein the polymer comprises less than 3 weight % ethylene.

36. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by a melt flow rate of 0.1 to 500 dg/min.

37. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by a percent crystallinity of 30 to 50%.

38. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by a melting temperature of 150 to 165°C

39. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by a crystallization temperature between 100 and 110°C

40. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by an Mw/Mn of 2 to 4.

41. (Withdrawn) The polymer of claim 30 wherein the polymer is characterized by a ration of extensional viscosity at break to linear viscosity of 2.5 or more.

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42. (New) The process of claim 1 wherein the catalyst activity is at least 2597 grams of polymer per gram of catalyst per hour.

43. (New) A process to produce propylene polymers comprising contacting a metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions, wherein the catalyst activity is between 2000 - 8000 grams of polymer per gram of catalyst per hour, and an activator with a reaction medium comprising:

propylene, from 0 to 30 volume % of one or more solvents and from 0 to 30 mole % of one or more comonomers, under temperature and pressure conditions below the melting point of the propylene polymer and where:

a) the temperature is at or above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium; or

b) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at or above the critical pressure of the reaction medium; or

c) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium,

wherein the produced propylene polymers have a  $T_m$  of 145°C or more and a branching index (g') of 0.97 or less.

44. (New) A process of preparing a branched homopropylene composition comprising: contacting a polymerization mixture that comprises propylene monomers with a metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions, activated with a non-coordinating anion, under temperature and pressure conditions below the melting point of the propylene polymer and where:

a) the temperature is at or above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium; or

b) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at or above the critical pressure of the reaction medium; or

c) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium, and

conducting polymerization of the propylene monomers for a time sufficient to form the branched homopropylene composition having a heat of fusion of 70 J/g, a  $T_m$  of 145°C or more and a branching index (g') of 0.97 or less.